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Solar Energetic Particle Observations from the Low Energy Telescopes on STEREO

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Abstract content

The twin STEREO spacecraft each include four solar energetic particle (SEP) sensors (part of the IMPACT investigation) that measure the composition and energy spectra of SEP ions with $1 \leq Z \leq 28$ from ~ 0.05 to ~ 100 MeV/nuc, as well as electrons. One of these is the Low Energy Telescope (LET), which measures SEP composition from ~ 3 to ~ 30 MeV/nuc. The LET sensors were first powered up in space in mid-November of 2006. We report first results on the composition and energy spectra of SEP events observed by LET, including the series of four X-class events during December, 2006. Observations from the SIS and ULEIS instruments on ACE are used to extend the energy coverage. In addition, we show examples of smaller 3He-rich events observed by LET and by the Suprathermal Ion Telescope (SIT) on STEREO, which measures ion composition from ~ 0.05 to 5 MeV/nuc. This paper will also describe the on-board analysis techniques used by LET to measure energy spectra of sixteen species in real time, and it will describe the various LET data products that will be available to the community.

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If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 1 (SH), pages 107-110

Primary author(s) : MEWALDT, R A (Caltech)

Co-author(s) : COHEN, C M S (Caltech); MASON, G M (JHU/APL); CUMMINGS, A C (Caltech); DAVIS, A J (Caltech); LABRADOR, A W (Caltech); LESKE, R A (Caltech); MIYASAKA, H (Caltech); STONE, E C (Caltech); VON ROSENVINGE, T T (NASA/GSFC); WIEDENBECK, M E (Jet Propulsion Laboratory)

Presenter(s) : MEWALDT, R A (Caltech)

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